



*Alagnak*

*Aniakchak*

*Katmai*

*Kenai Fjords*

*Lake Clark*

# Black Oystercatchers

## Graduate students supplement monitoring efforts in Kenai Fjords

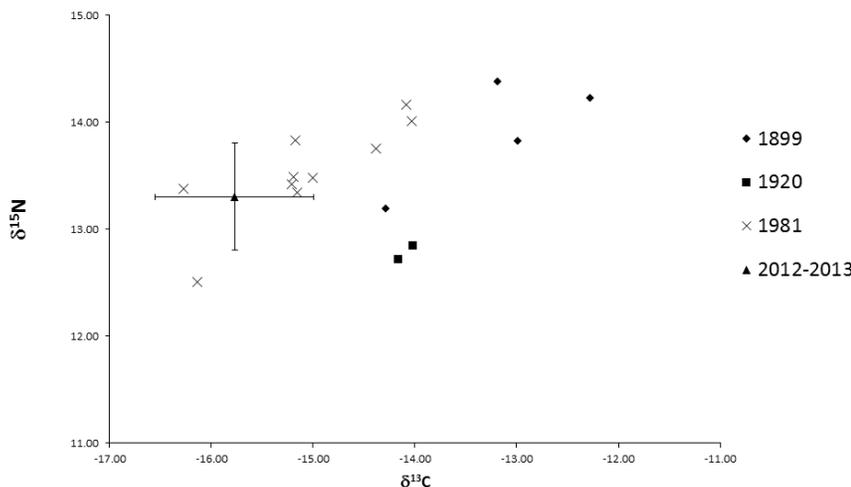
Research by two graduate students in Kenai Fjords National Park (KEFJ) is supplementing annual black oystercatcher (BLOY) monitoring efforts. Brooke Carney (University of Alaska Anchorage) used stable isotope analysis of field-collected and archived BLOY blood and feathers as well as known prey species in 2012 and 2013 to assess adult diet throughout the duration of the breeding season. Results show diet consistently includes primarily mussels and limpets over the entire breeding season (Mar to Aug), which

closely matches previous results from observation-based studies. Additionally, stable isotope analysis indicates BLOY diet has changed little in the northern Gulf of Alaska over the last 100+ years, further strengthening the justification of BLOYs as an indicator of intertidal ecosystem health (Fig. 1). Brian Robinson (University of Alaska Fairbanks) is intensively monitoring active nests during the 2013 and 2014 breeding seasons to examine the role of intertidal invertebrates in the diet of BLOY chicks and assess the influence of these

prey items on their body condition and survival. Brian is using remote cameras and direct observation to monitor nests and record provisioning behaviors and repeat captures to track chick growth patterns. Five territories were monitored in 2013, and adults delivered a wide variety of invertebrate prey to their chicks. Of the 12 chicks that hatched from nests, only two survived to fledge. While nesting success is near normal averages, fledging success was lower than usual in 2013.



**A black oystercatcher stands in the intertidal zone near Pederson Lagoon, KEFJ.**



**Figure 1. Stable isotope values of black oystercatcher feathers in the northern Gulf of Alaska from 1899 - 2013 indicate the birds have foraged at the same trophic level ( $^{15}\text{N}$  level) for over one hundred years. This finding provides further justification for black oystercatchers as an indicator of intertidal ecosystem health.**

## Importance

The black oystercatcher is a common and conspicuous member of the rocky and gravel intertidal marine communities of park shorelines. This species is completely dependent on nearshore marine habitats for all critical life history components, including foraging, breeding, chick rearing, and resting, but is highly susceptible to human disturbance. The black oystercatcher serves as “keystone” species and is important in structuring nearshore ecosystems.

## Monitoring Approach

SWAN staff have been monitoring black oystercatcher breeding density, nest productivity, and feeding behavior along the rocky intertidal coast of Katmai National Park and Preserve (KATM) since 2006 and in KEFJ since 2007. Annual boat-based surveys are conducted in early summer to determine breeding density. Nests are located on foot and examined for presence of chicks and/or eggs to determine productivity; shell remains are collected and identified to species to determine chick provisioning habits.

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